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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/348,317	07/07/1999	JOHN S. YATES JR.	5231.4-4002	5061

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EXAMINER

DAS, CHAMELI

ART UNIT	PAPER NUMBER
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2122

DATE MAILED: 11/04/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/348,317

Applicant(s)

YATES ET AL.

Examiner

C.DAS

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on pre-amendment 11/11/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-34 is/are allowed.
- 6) ☒ Claim(s) 6 is/are rejected.
- 7) ☒ Claim(s) 7-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3,6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the pre-amendment filed on 11/11/02.

Claim Rejections - 35 USC § 102

2. **The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:**

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. **Claim 6 is rejected under 35 U.S.C. 102(e) as being anticipated by Tye et al (US 6,226,789)**

As per claim 6, Tye discloses:

- classifying control flow instruction set into a plurality of classes (col 53 lines 30-60)
- during execution of the program... most recently executed (col 15 lines 30-65, col 16 lines 1-53, col 25 lines 51-55).

Allowable Subject Matter

4. Claims 7-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. Claims 13-34 are allowed.

The cited prior art taken alone or in combination fail to teach, in combination with the other claimed limitations, control-flow instruction of the instruction set being classified into a relatively small plurality of classes relative to the number of instruction opcodes executable by the instruction pipeline, most divisions in the classification being based on a static encoding of control-flow instructions executed, with at most minor divisions in the classification being based on dynamic or data-dependent execution behavior, as recited in the independent claim 1.

The cited prior art taken alone or in combination fail to teach, in combination with the other claimed limitations, a method before executing the destination instruction, reconfiguring the storage state of the computer to reestablish under the second execution context the logical state of the computer as interpreted under the first execution context, as recited in the independent claim 13.

The cited prior art taken alone or in combination fail to teach, in combination with the other claimed limitations, a storage register designed to store, and circuitry designed to record without software intervention into the storage register, a value reflecting the class, from among the encoding based classification, of an instruction recently executed by the pipeline, as recited in the independent claim 24.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

TITLE: System and Method for Jump-Evaluated Trace Designation, US 6,148,437

TITLE: Processor and instruction set with predict instructions, US 6092188 A

TITLE: Method and apparatus for using static branch predictions hints with dynamically translated code traces to improve performance, US 6205545 B1

TITLE: Compiling strong and weak branching behavior instruction blocks to separate caches for dynamic and static prediction, US 6115809 A.

TITLE: Method for back tracing program execution, US 6353924 B1

TITLE: Branch history guided instruction/data prefetching, US 6560693 B1

TITLE: Method for selecting active code traces for translation in a caching dynamic translator, US 6351844 B1

TITLE: Method and apparatus for profiling of non-instrumented programs and dynamic processing of profile data, US 6233678 B1

TITLE: Dataflow machine architecture, author :Arthur H. Veen, December, 1986.

TITLE: Exceeding the dataflow limit via value prediction , author: Mikko H. Lipasti , John Paul Shen, ACM ,1996.

TITLE: Analyzing the working set characteristics of branch execution, author: Kim, S.P.; Tyson, G.S., IEEE, 1998.


TITLE: EEL: machine-independent executable editing, author: Larus et al , ACM, 1995.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chameli Das whose telephone number is 703-305-1339. The examiner can normally be reached on Monday-Friday from 7:00 A.M. to 4:00 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Tuan Dam can be reached at 703-305-4552. The fax number for this group are:

(703) 872-9306 (official fax), (703) 746-7240 (non-official/draft), (703) 746 -7238 (after final).

An inquiry of general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is 703-305-9600.


Chameli C. Das

Primary Patent Examiner

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10/27/03